

## APPENDIX B

### MAINTENANCE TOOLS

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#### **B-1. Tool inventory**

The following lists serve as guides for supplying maintenance personnel with tools. Requirements for both basic and trade tools will vary depending on the equipment served and on individual preferences.

*a. Standard tools – basic.* The following tools are commonly used by all trades.

- (1) Standard and phillips head screw drivers - various sizes
- (2) Pliers - vise grip (2), slipjoint, needlenose, diagonal, cutting pliers, side cutters
- (3) Ball peen hammer
- (4) Hack saw and spare blades
- (5) 3/8" drive socket set and ratchet
- (6) Small set of Allen wrenches
- (7) Assorted center punches, drift punches, steel chisel
- (8) 12' measuring tape
- (9) Crescent wrenches 4" to 8"
- (10) Open and box end wrenches 1/4" to 3/4"
- (11) File
- (12) Pipe wrenches to 14"
- (13) Small level and square
- (14) Pocket knife
- (15) Flashlights
- (16) Grease guns and oilers
- (17) Wire brush
- (18) Shears and tin snips
- (19) Extension cord and inspection lights

(20) Various cleaning tools - brushes, scrapers, etc.

(21) Emery cloth

(22) Handsaws

(23) Paint brushes and containers

(24) C-clamps, various sizes

(25) Drill and bits

(26) Star wrenches

*b. HVAC/refrigeration/mechanical tools.* The following tools are commonly used by refrigeration mechanics.

(1) Standard tools - basic

(2) Refrigeration - gauges

(3) Refrigerant recovery equipment

(4) Leak detector - electronic or halogen

(5) Voltmeter - Ohmmeter - Milliammeter (True RMS)

(6) Flaring tool

(7) Tubing cutters

(8) Clamp-on ammeter (True RMS)

(9) Packing kit and packing

(10) Crescent wrenches to 14"

(11) Head pressure gauge registering 0-400 psig

(12) Compound pressure gauge registering from 30 inches vacuum to 150 psig

(13) Gauge manifold with flexible lines

(14) Refrigerant charging hose

(15) Refrigerant service cylinder

(16) Scales for weighing refrigerant charge or charging cylinder

(17) Valve stem wrenches

- (18) Leak detector
  - (19) Vacuum pump
  - (20) Refrigerant grade thermometers
  - (21) Bearing, hub, and gear puller
  - (22) Gauge feeler
  - (23) Torque wrenches (common need is 5 ft-lb to 500 ft-lb range)
  - (24) Pocket thermometer
  - (25) Flaring tool
  - (26) Dial indicator gauge
  - (27) Hand grease gun
  - (28) Collet driver
  - (29) Shaft locating tool
  - (30) Portable A-frame and chain hoist
  - (31) Vernier calipers and micrometers
  - (32) Flat and tapered feeler gauge set
  - (33) Hydraulic arbor press
  - (34) Oil charging pump
  - (35) Sheet gasket cutting tool set
  - (36) Tap and die set
- c. *Electrician's tools.* The following tools are commonly used by electricians.
- (1) Standard tools - basic
  - (2) Insulated pliers and screwdrivers
  - (3) Wire strippers
  - (4) Wire crimpers
  - (5) Voltmeter - Ohmmeter - Milliammeter (True RMS)

- (6) Clamp-on ammeter (True RMS)
- (7) Soldering kit
- (8) 1/8" X 25' fish tape
- (9) Burnishing tool

d. *Pipefitter/plumber tools.* The following tools are commonly used by pipefitters and plumbers.

- (1) Standard tools - basic
- (2) Pipe wrenches to 24"
- (3) Tubing cutters
- (4) Flaring tool
- (5) Small acetylene outfit
- (6) Package kit and packing
- (7) 3/4" socket set
- (8) Crescent wrenches to 14"
- (9) Pipe cutting and threading tools

e. *Portable power tools.* All trades may utilize the following portable power tools during maintenance activities.

- (1) Drills
- (2) Grinders
- (3) Saws
- (4) Paint sprayers

## **B-2. Tool care and usage**

Tools have specific uses and must not be used for other purposes. When the proper tool is not available, it should be obtained.

a. *Tool storage.* Tools should be kept on a tool board or in a tool-box when not in use.

b. *Tool inspection.* Tools must be inspected monthly. Damaged or worn tools must be replaced, and cutting tools must be kept sharp. Tools should be cleaned and lubricated before they are returned to storage.